

cable also serves as a means in itself of making the electric circuit and sounding the alarm if the heat-detector should not work, and such action is as follows: If a fire occurs in any part of the room or building where this electric cable or conductor is located, or from any extreme heat, both coatings or coverings of the insulating material at such place will melt or burn in flames, and the fusible metal or covering C of wires at such place quickly becomes heated at the temperature determined and melts and flows or runs down onto or connects or comes in contact with one or more or all of the electric wires E, which instantly makes the circuit with the battery, magnet, and bell through the wires and connecting-wires, sounding the bell, as before described. This doubly insures the sounding of an alarm in case of fire.

The electrical apparatus for sounding the alarm can be placed in another room or in any part of the building or can be placed outside of the building, as desired.

The electric wires forming the electric cable can be of any convenient size; also, as all the wires are arranged in a cable form, it can be laid easily and conveniently in all places about the room or building. In practical use this electric cable or conductor is run around the room at any and all places desired, at any desired height, along the mopboard, up at the sides, along the ceiling, cornices, into closets and other small places, &c.

These heat-detectors can also be placed in any and all desirable places in the room or building, each being connected, as described, electrically with the conducting-wires of the cable, and, being small, compact, and costing but a trifle, an electric fire-alarm system of this construction can be easily, conveniently, and satisfactorily placed in any building and at a very small cost and practically save the building from fire. Being cheap, a larger number of these heat-detectors can be used, so that an incipient blaze or heat at any point will immediately cause the system to operate, and thus an alarm be given at the very instant of danger.

Each detector can be covered or protected with a wire-gauze to prevent dust and dirt collecting thereon to injure it, the gauze being open enough to allow the heat to pass through to melt the bulb or knob and so arranged as not to interfere with the electric circuit. Such wire-gauze covering is shown in Fig. 10 at *g'* substantially of cup shape and surrounding the block close up against the ceiling, and it is secured by a screw *h'* to the bottom of the block. The wires *t u* of the block pass freely through it, but are insulated from it in any suitable manner. In lieu of a gauze any suitable perforated covering can be used, so long as it will not interfere with the heat reaching the fusible knob and yet prevent dirt reaching the detector to interfere with its proper working.

The wires leading into the chamber or re-

cess of the block can be supported independent of said blocks or in any suitable manner for their ends to be in the chamber; but it is preferable to have them in or with the block, as it makes all one device and can be attached with much less trouble to its proper place.

Having thus described my invention, what I claim is—

1. In an electric fire-alarm, in combination, an insulated block, a recess or chamber in said block, a bulb or globule or knob of fusible metal or compound of metal suspended over said recess, and two wires or conductors extending into said recess independent of and insulated from each other, an electric cable or conductor composed of a central core of copper or other electric wire, a covering of fusible metal or compound of metal over said central wire, an insulating material over said fusible metal, an electric wire or wires wound upon the insulating material and an insulating material covering the whole, the central wire with its fusible-metal covering and the electric wire wound upon the insulating material being electrically connected to the two wires respectively of the insulated block and respectively to the two poles of an electric battery.

2. In an electric fire-alarm, in combination, an insulated block, a recess or chamber in said block, a bulb or globule or knob of fusible metal or compound of metal suspended over said recess, and two wires or conductors extending into said chamber independent of and insulated from each other, two other wires arranged in close proximity side by side but electrically separated from each other, one of said wires being formed of a metal fusible at a low temperature, said latter wires at one end being respectively connected to the wires of the block and respectively connected at their other ends to the poles of an electric battery.

3. In an electric fire-alarm, in combination, an insulated block, a recess or chamber in said block, a bulb or globule or knob of fusible metal or compound of metal suspended over said recess and two wires or conductors extending into said chamber independent of and insulated from each other, and two other wires, one of which is formed of a fusible metal or compound of metal and covered with an insulating material and the other of said wires being wound about and over the insulating material, said latter wires at one end being respectively connected to the wires of the insulated block and at their other ends respectively connected to the poles of an electric battery.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN D. GOULD.

Witnesses:

EDWIN W. BROWN,
LEONA C. ARNO.